

# **CMT**

## **ORANGE TOOLS®**



### **CMT Drawer Lock Bit**

**Deceptively simple, this bit allows you to make drawers with a tight fitting rabbet. There is a little set-up involved and then you can cut perfect drawers in minutes.**

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This is a “drawer lock bit.” This picture is right out of the CMT catalog. I have had the bit for some time, but just now am getting around to using it. I will use it for the many shop drawers that I am now making. The drawer lock joint is probably not as strong a joint as a good through-dovetail, but it is so much faster – and it should do the job.



Frankly, I don't have a clue as to how to set it up. Before I cut wood, I will read the instructions. The bit I am using is the CMT 855.502.11. I am sure that other manufacturers have similar bits that will work in much the same way, but be sure to read the instructions that come with the bit.



I start by installing the bit in the router.

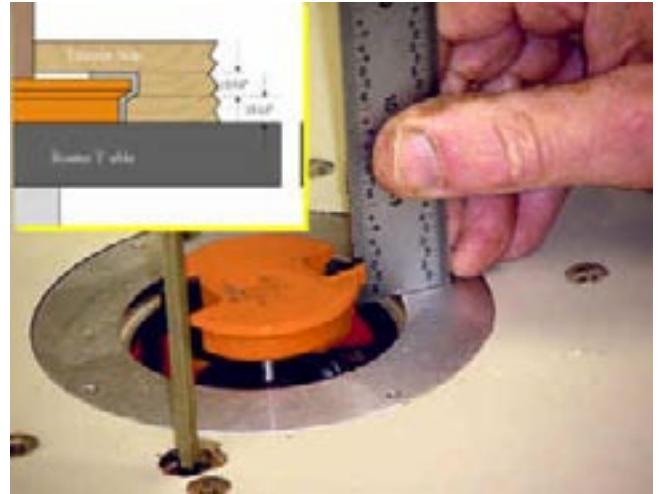
Note, the bit I am using has a 1/2" shaft and a total diameter of 2 inches. For that width, I will set the router on a slower speed – 18,000 rpm is recommended by the manufacturer. Be sure to set the recommended speed that comes with your bit.



I unlock the router plunge mechanism and adjust the bit height so that the middle of the bevel is 15/64" above the table.



I don't think I have ever measured in "64ths" before and it took a while to find a ruler that had the markings, but I set it as accurately as I could. The inset shows the "bevel" that should be at this height.



I am using my CMT Router Table and adjust the split fence so that each side gives about a 1/8" clearance. I am also setting the fence depth at a starting point – with the fence even with the lower cutter. I know this will create too shallow a cut, but I thought I would start somewhere and see what happens.



I know I am going to have to make several cuts before I have this setup down pat, this first time.

I have two pieces of 3/4" plywood and have marked one as the "front/back" of the drawer and the other as the "side."

Since the instructions show that the front/back gets routed flat on the table and inside down, I mark that on the sample board.

On the sample side board, I have marked it to be cut vertically with the inside against the fence.

Those markings should help me minimize mix-ups.



It doesn't matter which component is cut first. I opt to run the front/back piece first. The pushpad keeps the board flat to the table and gives me positive and safe control.



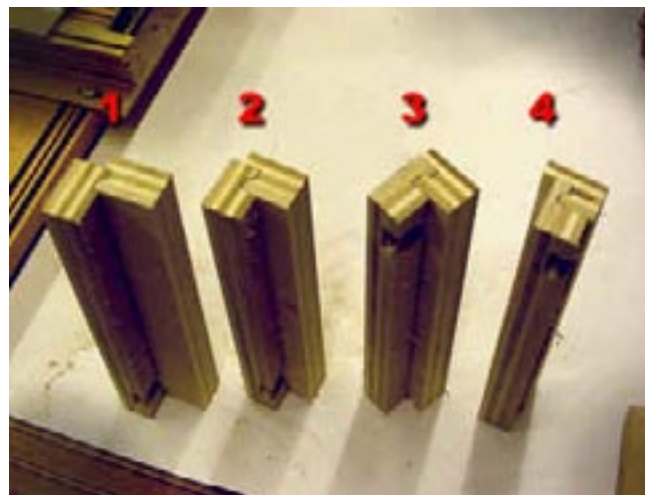
Several test cuts later, and I have learned quite a bit about setting up this bit. First, I make no adjustment to the height of the bit. The initial 15/64" is ideal for 3/4" stock.

All the adjustments were made to the fence and varied the depth of cut. Number "1" is my first cut where I set the cutter to align with the fence — it is way too shallow.

I move the fence to expose more bit and made cut number "2" — I am going in the right direction.

Number "3" is about perfect. I realized that I want to move the fence the amount of "error" — that upper corner where it is not flush.

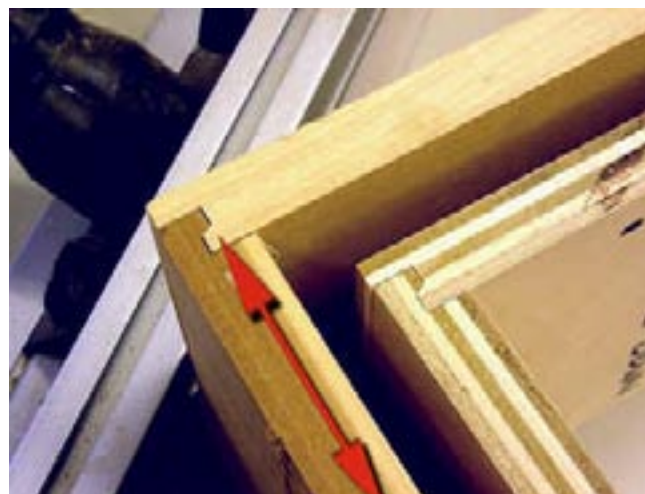
Cut "4" is what happens when you go too far, unless you want a rabbet for overlap drawers. I will discuss that in a minute.



It was simple to reset the fence to the right depth — I simply used the "No. 3" piece. I have now marked both of those pieces as "Save - Set Up Blocks".

If I got this good a joint with plywood, I wanted to see what it would look like in poplar — very nice indeed.

This close-up can also demonstrate the direction of structural strength. Just as with a dovetail joint, it has great holding power in the front-to-back direction (arrow) and little in the sideways direction. It does give good gluing surface, which counts.



Before we leave this bit, here is an easy way to add a specific amount of overlap. First, set the fence using the set-up blocks to have a "flush" fit. With your test piece against the cutter and your ruler at the center point of the bit, move the fence back to give you the distance equal to the rabbet you want.

I suggest that if you are making overlap fronts, that you 1) add the extra width to the front stock and 2) set-up the bit for flush cuts (#3) and make the cuts on all the boards, and then add the overlap amount and run the fronts through for a second and final cut.



Here is a question for you: "A" has way too much tearout and "B" is perfect. Do you know why the difference?



That's right. In the initial setup, I simply moved the split fences to be close to the left and right sides of the bit. The tearout is not at the ends but above the cutter. Since the CMT Router Table allows the use of inserts, making the customized insert was as simple as could be – and made all the difference in the world.

My final thoughts: I like it. It is not as strong as a through or half-blind dovetail nor does it have the “dovetail look of craftsmanship”, but it makes a clean, strong joint that certainly can be used for utilitarian drawers and boxes. And, it is fast to setup and run and great for people who do not, yet, have a dovetail jig.

